Serial No. 09/622,353
Group Art Unit: 1637

REMARKS

Applicant thanks Examiner Tung for the courtesy of the telephonic interview granted on March 4, 2003. In addition to Applicant's attorney, the interview was attended by co-inventor of the instant application, Dr. Robert Meeley, Ph.D., who also is co-inventor of the invention claimed in U.S. Patent No. 5,962,764 (Briggs *et al.*) which has been cited by the Examiner as one of the two references applied under 35 U.S.C. §103. Claims 1-21 are pending in the case.

35 USC §103

Claims 1, 4-7, 9-13 and 15-21 were rejected as being unpatentable over Briggs *et al.* (U.S. Pat. No. 5,962,764) in view of Lindemann *et al.* (U.S. Pat. No. 5,958,738). Applicants respectfully traverse.

In the Office action, the Examiner rephrased Applicants position by stating "in Briggs *et. al.* one can determine an otherwise unknown phenotype for a gene of known sequence, while the claimed invention enables one to isolate an unknown sequence given a known phenotype and Briggs *et. al.* employ primers to the transposable element and to the known sequence" while the present invention utilizes primers to the transposable element and to the adapter. Office action , page 2 (emphasis added).

In light of this distinction, the Examiner indicated that "the limitation 'isolate an unknown sequence given a known phenotype' is not in the claim language. However, if the claim is amended to include the limitations as discussed in the response filed 10/8/2002 with due support in the specification, the instant rejection will be withdrawn." At page 2.

Applicants' representative discussed this issue with the Examiner during the telephonic interview. Claim 1 currently (and as originally filed) states that the method is for "the identification and isolation of a genetic sequence . . ." See, Claim 1, line 1 (emphasis added). Accordingly, the claimed method relates to what are

clearly "unidentified" sequences. The objective of the method is to identify and isolate these unidentified sequences.

Further, the phenotype must be known in order to carry out the method. Paragraph (a) of claim 1 requires, "segregating a plurality of organisms by the presence or absence of said mutant phenotype . . .". Clearly, to segregate on the basis of phenotypes the phenotype must be known. Therefore, identification of an unidentified genetic sequence that is associated with a known phenotype are, in fact, explicit limitations in the pending claims. Applicants contend that the current claim limitations are sufficient to contrast and distinguish the subject invention from that of Briggs *et al.* which recites use of a known sequence to identify the phenotype associated with that known sequence.

Dr. Robert Meeley, co-inventor of both the present invention and that of Briggs *et al.* (U.S. Pat. No. 5,962,764), clarified the distinction between the instant invention and the invention that he co-invented with Dr. Steven Briggs and argued for the non-obviousness of the present invention over the cited art. Dr. Meeley pointed out a key distinction between Briggs *et al.* and the present invention by describing the difference between so-called "reverse genetics" and the more traditionally known "forward genetics".

Briggs *et al.* provided novel means to enable reverse genetics by working from a known DNA sequence toward the identification of a mutant DNA sequence and finally to the functional characterization of the gene's (mutant) phenotype. In sharp contrast, the present invention provides novel means for forward genetics: to segregate plants based on a known mutant phentoype and then apply transposon-anchored PCR in order to identify and isolate the (mutant) genetic sequence.

In addition, Dr. Meeley also described how the transposon-anchored amplification method embodied by the present invention is novel and non-obvious with respect to Lindemann *et al.* First, the present invention recites the use of transposon-anchored PCR primers. These are directed toward specific genetic sequences and are used in combination with primers directed toward an adapter

sequence. In contrast, the invention of Lindemann *et al.* relies on primers directed to adapters only, and does not contemplate their use in combination with primers anchored to genetic sequences. Secondly, Lindemann *et al.* specifies the use of one or more subtractive hybridization steps that are unnecessary and avoided in the presently claimed invention.

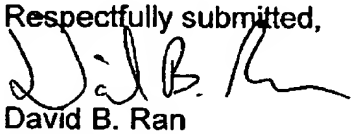
Claims 2-3, 8, and 14 remain rejected under 35 U.S.C. §103(a) over Briggs *et al.* and Lindemann *et al.* in view of Schnable *et al.* and Halverson *et al.* Applicants respectfully traverse.

Applicants contend that the references of Schnable *et al.* and Halverson *et al.* do not address the deficiencies of Briggs *et al.* and Lindemann *et al.* as discussed above. Since claims 2-3, 8, and 14 depend from claims that are believed to be allowable, these claims, too, are patentably distinct. Withdrawal of this grounds of rejection is, accordingly, respectfully requested.

CONCLUSION

For the foregoing reasons, Applicants respectfully request withdrawal of the rejections under 35 U.S.C. §103 and passage of the application to issuance. In the event that any issues of substance remain, Applicants invite the Examiner to call the undersigned to discuss the application.

Respectfully submitted,



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